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ABSTRACT

This paper synthesizes issues and informational needs regarding the supply and demand for doctoral level personnel in special education and stresses the importance of obtaining accurate data on teacher supply and demand for planning training activities and analyzing manpower needs. Existing findings on teacher employment, teacher shortages, teacher supply, and teacher attrition are reviewed. The insufficient supply of doctoral level special education personnel is then documented. Among barriers to leadership training identified are lack of adequate financial support, poor working conditions for faculty, and attrition through retirement. Data are then given on leadership needs in the following specialty areas: behavior disorders, bilingual/language minority, rural special education, early childhood special education, career/vocational/transitional special education, special education research, special education administration and supervision, speech/language/hearing personnel, severe/profound/multiple handicaps, and adapted physical education and therapeutic recreation. Sixteen specific issues are considered. These include the need for a comprehensive data base that tracks the production of doctoral level personnel, the need for a national disseminator of specific supply and demand data, the need for closer working relationships between institutions of higher education and employers, and a need for studies on the retirement trends and patterns of educators. (96 references) (DB)

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INFORMATION BULLETIN #29

# LEADERSHIP TRAINING IN SPECIAL EDUCATION:

# A STATUS ANALYSIS

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# Leadership Training in Special Education: A Status Analysis

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Washington, DC

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# Leadership Training in Special Education: A Status Analysis

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## Introduction

The current public concern directed toward the condition of education includes such topics as student performance, teacher competency, teacher training, school finance, school environments, and many other related issues. A central concern for many educators and educational policy makers is the present and projected supply of a teaching force adequate to meet the marketplace demand for well-trained, certified teachers. Most studies directed toward the teacher supply/demand topic have dealt almost exclusively with elementary and secondary teachers and a wide array of content areas. Recently, concern has been focused upon identifying the capacity of institutions of higher education (IHEs) to produce classroom teachers and the supply of and demand for leadership (doctoral) personnel. There is, however, a paucity of nationally reported data that deals specifically with the supply and demand for doctoral level personnel in special education. The focus of this paper will be directed toward an examination of available data and personnel needs associated with doctoral training at the national level.

A need exists both to acquire and provide information and assistance to IHEs State and local education agencies and other service providers who, because of their responsibility to implement the Education of the Handicapped Act (PL 94-142), as amended, must recruit and retain adequate numbers of qualified special education personnel. Due to the nature of their training and research functions, IHEs seek to hire and retain personnel who demonstrate knowledge and skills acquired through advanced degree programs, specifically doctoral programs. State and local agencies rely also upon collaborative relationships with research and personnel preparation faculty at IHEs in seeking ways to more effectively and appropriately deliver special education services to students who are handicapped. Federal leadership and responsibility to assist State and local agencies in fulfilling their duties under EHA traditionally have included the support of higher education training programs and, specifically, the training and preparation of individuals at the doctoral level with the expectation that afterwards these individuals will assume administrative, personnel preparation or research functions in special education.

To insure the availability of needed doctoral level personnel, Federal and State education agencies and the IHEs need valid and relevant information related to the issue of supply and demand for doctoral level personnel in special education. The purpose of this paper is to synthesize currently available information on the current supply of leadership personnel in special education. Specifically, this paper synthesizes issues and informational needs regarding the supply and demand for doctoral level personnel. Companion papers which focus on synthesizing and interpreting special education doctoral program data related to both students and faculty at the IHE level are being developed by Deborah Smith at the University of New Mexico, and Teresa Bunsen at the University of North Texas. Drs. Nasim Dil, William Geiger, John Hoover, and Paul Sindelar are conducting national surveys of IHEs on different aspects of the need for leadership personnel. The Bunsen study will reflect numbers of doctoral students trained in specific areas of special education and types of employment taken by graduates. The Smith study will reflect faculty demographics such as age, projected retirement, faculty rank, and salary ranges. The Dil and associates study will focus on the number of vacant professional positions in

special education personnel preparation programs. The collective information from these studies should enable agencies and organizations to obtain meaningful data regarding the need for and supply of leadership personnel in special education.

## Establishing the Need for Data

Concern about the supply of qualified personnel in the provision of special education and related services to handicapped students has been reflected in the Education of the Handicapped Act of 1986 (PL 99-457). The law specifies that in making grants to prepare personnel in special education, the Secretary of the Department of Education must base the determination of such training grants on information relating to the present and projected need for personnel to be trained based on identified state, regional, or national shortages and the capacity of the institution or agency to train qualified personnel [PL 99-457, Part D, Sec. 631 (a)(2)(A)]. Although the merits of having data available on the present and projected need for special education personnel and the capacity of institutions to produce these personnel are obvious, there are significant gaps in both state and national knowledge on these topics. There are well-documented statements and discussions concerning the national lack of specific, accurate data on the numbers of special education teachers available, the number of special education teachers being trained and the number of leadership personnel being prepared to train teacher educators, researchers, and administrators, and other factors affecting teacher availability (Burke, McLaughlin, and Smith-Davis, 1986; Raizen, 1986; Duncan and Schofer, 1986; Hecker, 1987; Darling-Hammond, 1988).

There is also a national need to identify how many faculty are available to train current and future leadership personnel. The necessity for accurate state-by-state data and national data emanating from training programs, position vacancy studies, and surveys of program graduates, jobs taken, and faculty demographics is of critical importance. This information can be used in a positive way by IHEs, SEAs, and other agencies to facilitate immediate and long-range planning. It can further be used to establish the basis of need for local, regional, and national personnel.

In order to acquire supportive data for decision making, faculty, administrators, and policy makers can utilize a wide range of existing data. One such source is census data and population trend data. A knowledge of current population characteristics is needed in order to make coherent decisions regarding both preparation of and programming for special education personnel. Some information provided by the U.S. Bureau of the Census (1982) that impacts upon the present and projected supply of special education personnel is presented below.

- The total U.S. population will increase by 38 million from 1981 to the year 2000.
- The population of primary school-age children (CA 5 to 13) will decrease from 30.7 million in 1981 to 29.6 million in 1985 but will increase to 34.4 million by 1995.
- The population of secondary school-age students (CA 14 to 17) will increase approximately 2.5 million from 1990 to 2000.
- The population of 18- and 19-year-olds will increase by one million from 1995 to 2000. (p. 1)

- By 1992 50% of all college students will be over the age of 25 and 20% will be over 35. (Hodgkinson, 1985)

- Both birth rates and immigration patterns point toward a population configuration by the year 2000 when one of every three persons will be nonwhite. (Mathis, 1987)

- Current employment trends suggest that older teachers will begin to retire in large numbers by 1995, thus increasing the need for more beginning teachers. (Feistrizer, 1983; Mathis, 1987)

Clearly the stated needs for teacher supply and demand data and observations drawn from population trend data should be incorporated into planned training activities as well as larger analyses of manpower needs and professional employment patterns.

## Supply and Demand for Teachers

Supply and demand studies in education almost exclusively deal with the supply of new teachers, supply related to content or specialty areas, and the marketplace needs or demand for teachers in both general and special education. Very few studies focus specifically on the supply and demand for doctoral level personnel. Typical supply and demand studies tend to look at numbers of new graduates, the need for teachers in specialty areas (with implied need for teaching faculty in those areas), and attrition or retirement rates. Nevertheless, there is a need for awareness of supply and demand issues associated with the classroom teacher since the economy that affects them directly affects the faculty who train them. With a projected shortage of teachers in special education, and certain categorical areas in particular, faculty in college and university personnel preparation programs should be aware that a need will exist for additional, adequately qualified faculty to serve in those programs.

Teacher Employment. There have been conflicting reports relative to the demand for teachers at all levels in recent national reports, professional association publications, and news articles (Berry & Hare, 1986; Raizen, 1986; Rumberger, 1985; Hecker, 1987). In order to make reasoned judgments and projections concerning present and future needs for teachers, and the extent of need for the training of special educators, adequate data concerning employment trends and patterns is needed. In analyzing data on the employment of teachers in the ten handicap categories tracked by the Office of Special Education Programs for annual reports to Congress, Bowen (1987) found that the number of teachers employed to teach in these categories or areas of handicap increased in six areas and decreased in four other areas. The six areas in which the number of teachers increased are learning disabilities, speech and language impairments, emotional disturbance, multi-handicaps, orthopedic handicaps and deaf/blind. Areas in which the number of teachers decreased during this period are mental retardation, hearing impaired, other health impairments, and visual handicaps. It should be noted that there was considerable shifting in numbers of students reported in some of these areas which in turn affected the number of teachers hired.

Teacher Shortage. What is the national level of need for special education teachers? Is the need consistent or diminishing? The available information to answer these questions is inconclusive. In a recent national study conducted by the Rand Corporation, Darling-Hammond (1984) identified some factors contributing to projected teacher shortages as being declining enrollments in teacher education, projected increases in pupil enrollment

into the 1990s, and a continuing attrition of teachers in the classroom. The suggestion is made that unless major changes occur, it will be necessary to hire and retain many marginally qualified teachers. Other conditions which cloud the picture of total teacher need are negative economic conditions in certain states which cause reduced dollars for teacher positions; larger teacher/student ratios; regional migration and population trends; inadequate record keeping and reporting of number of unfilled positions; and hiring of uncertified personnel (Smull & Bunsen, 1989; Darling-Hammond & Hudson, 1990).

The need for additional special education teachers has been tracked nationally for some time. The Condition of Education (NCES, 1985) lists the areas of greatest shortage in special education as being speech impaired, general special education, and seriously emotionally disturbed. Additionally, the Association for School, College, and University Staffing in a report on relative demand by teaching area, found that the areas of greatest shortage in special education were multihandicapped, mental retardation, and learning disabilities (Akin, 1987). Similar findings were observed by Smith-Davis (1985) who reported the most critical shortages are found in areas related to physical and emotional handicaps, severe behavioral handicaps and mental retardation, sensory handicaps and personnel to work in special education at the secondary school level and in rural settings.

Teacher Supply. There appears to be a need within the special education teaching force to replace those teachers who retire, leave the field, or take other positions in education. In a national study designed to examine issues of manpower supply and demand in special education, Smith-Davis, Burke and Noel (1984) interviewed personnel in all the states to identify manpower issues related to programs and services for children and youth with handicaps and to explore personnel preparation and deployment. They found that only twelve jurisdictions reported a full complement of preservice personnel preparation programs operating within their boundaries to supply new candidates for the various roles in special education. Only two jurisdictions reported that the supply of new graduates from their own training institutions would be sufficient to meet current and near-term demands for personnel. This analysis of several multistate areas indicated that regional deployment of graduates to multiple jurisdictions did not ordinarily compensate for lack of preservice programming.

A major, though inadequate, measure of teacher supply is the number of degrees conferred during a given period of time. Information on the number of degrees conferred annually in education is collected by the Higher Education General Information Survey (HEGIS), a division of the National Center for Education Statistics. In a ten-year review of HEGIS data on special education degree awards (1975-76 to 1984-85), Bowen (1987) found the following:

- There was a consistent drop of 500 to 1,000 special education teachers being graduated per year;
- There was a diminution of 12,931 special education degrees conferred across all degree levels and categories during this time;
- The highest number of degrees conferred was in 1975-76; the lowest number of degrees conferred was in 1984-85;
- The number of graduate-level degrees conferred appears more stable than the number of undergraduate degree awards; and
- The total number of degrees awarded in special education appears to be dropping rapidly.

These data, along with the fact that a second degree or certification award to graduate teachers may duplicate or overcount the existing number of teachers, can cause concern about the number of teachers being trained to serve the nation's handicapped students. In general, it would appear that the total national supply of new degree awards could hardly be expected to meet the existing need.

Teacher Attrition. As with any profession, teachers may elect to leave the classroom, retire, move from a geographic area, etc., and must be replaced. There is some feeling that special education teachers in general, and teachers in certain areas of handicap in particular, have a higher attrition rate than the national average of all teachers. Both the National Education Association (1983) and the National Center for Education Statistics (1985) have estimated the turnover rate of all teachers as being approximately six percent. The attrition rate for special education personnel appears to be much higher, with well-documented examples of even higher turnover rates identified for certain areas within special education. For example, the attrition rate for teachers of the behaviorally disordered has been reported as high as 54% (Grosenick & Huntze, 1981) and as high as 30% for teachers of the severely handicapped (Smith-Davis, Burke & Noel, 1984).

A survey of attrition data reported for special education teachers reveals some consensus for the overall attrition rate of special education teachers. In analyzing state education agency data for special education teachers in Michigan, Smith (1981) found an attrition rate of 10% for special educators after one year of teaching, 28% after five years of teaching, and 43% after eight years of teaching. Using similar special education teacher master file data in Michigan, Gomez (1986) found a 10% attrition level for teachers with one year of teaching and 37% after seven years of teaching. The Illinois State Board of Education (1981) reported a 12% annual attrition rate for all special educators and a 9% attrition rate for all elementary and secondary teachers. In analyzing statewide teacher data for Kansas, McKnab (1983) discovered a 16% attrition rate for special educators. A 12% annual attrition rate for special education teachers in general would appear to be representative of nationally reported data. A summary of reports containing teacher attrition rates is provided in Table 1.

## Supply and Demand for Leadership Personnel

There is a growing perception that the supply of doctoral-level special education personnel may be insufficient to meet future needs in training, research, and service. While there is a growing body of information concerning the shortage of classroom teachers, the need for college faculty and other leadership personnel has gone unaddressed until recently. Two of the major studies that have been conducted on this topic are reviewed below as well as other available information on the production of doctoral-level personnel.

In order to investigate questions related to the future supply of leadership personnel with special education doctorates, Smith and Lovett (1987) collected and analyzed data obtained from member institutions of the Higher Education Consortium for Special Education (HECSE). Data aggregated from questionnaires returned by 36 HECSE member departments addressed issues such as faculty composition and characteristics, salary and age levels, tenure status and minority representation. Major findings are summarized below.

- The HECSE faculty are primarily male at the senior levels while females constitute the majority of faculty at the assistant professor levels.

- While there are limited numbers of minority faculty throughout all faculty ranks, only one minority faculty (3%) was identified at the assistant professor level.

- The mean age of full professors was 48.33 and 41.23 for associate professors. During the next few years a 10% attrition rate due to retirements can be expected.

- Nationally there could be a projected need for 362 new faculty due to retirements alone, beginning in 1990.

- The average yearly output of less than 100 doctorates from the HECSE institutions, representing 36 of 82 doctoral-granting IHEs in special education, may not meet the demand for new doctoral faculty.

The information presented in the Smith and Lovett (in press) study demonstrates the importance of acquiring and monitoring national data related to the production and development of special education doctoral-level personnel.

In a related study, Sindelar & Taylor (1988) attempted to determine the extent to which reductions in federal support for leadership preparation corresponded to changes in the supply and demand for doctoral-level special education personnel. They collected data on supply of and demand for special education and communicative disorders doctorates over an extended period of time (1976-1986). Estimates of supply were obtained from the Digest of Educational Statistics (U.S. Department of Education, Office of Educational Research and Improvement). Demand was operationalized as the number of position announcements that appeared in a calendar year in the Chronicle of Higher Education. Data were treated to a regression analysis of two time series, number of special education doctoral graduates and number of special education position announcements, using year as the predictor variable. A summary of the results show the following:

- Most of the earned doctorates were received either in general special education or speech pathology/audiology.

- Annual doctoral awards in special education appear to be dropping precipitously. The regression line, which was decreasing, was significant at the $p < .01$ level. The supply has fallen by an average of 9 graduates a year over an 11-year span.

- The speech pathology/audiology total doctoral awards also suggested declines, but the regression line was non-significant ($p > 10$).

- The number of position announcements (demand) for speech/language pathology and audiology/hearing impairment has increased since 1975 by an average of three announcements a year.

- Projections from the regression treatment indicate that demand for doctoral level personnel may soon exceed supply. Current supply data may overestimate the number of new graduates who enter the IHE job market.

To date, this is the only study undertaken to analyze demand for doctoral personnel in special education in terms of specific job openings/position announcements and to compare this demand with the available supply of new doctorates. Obviously, the field could profit greatly from similar future studies.

Nationally, the award of doctoral degrees in education is decreasing. From 1980 through 1986 there was a 10.5% decrease in earned doctoral degrees in education (See Table 2). A review of earned doctoral degrees in special education for the same period shows minimal change in the number of degrees awarded (See Table 3). The largest range in the number of degree awards during this time was 42 or a one-time rate increase of 16%. The largest annual number of special education doctoral awards was 299 in 1983-84, a number that is considerably below Smith and Lovett's projected need of 362 new doctorates by 1990. The current annual production rate of new doctoral recipients in special education appears stable, i.e., not increasing, in the face of anticipated increases in retirement rates for present IHE faculty, diminishing applications to doctoral training programs, addition of new IHE preparation programs, and new directions in special education.

It should be noted that doctoral-level training programs in special education have not utilized the full range of information and research activities that are available to generate needed data to guide and support desired program outcomes. For example, in performing a quantitative analysis of doctoral dissertation research in special education, Brady, Williams & Bailey (1988) found that only 10.9 percent of the dissertations completed from 1981 through 1985 studied personnel preparation as a content area. Further, only one percent of the dissertations reported the study of college faculty as subjects. It is not known how many studies utilized other data bases such as State CSPD information, census projections, placement patterns of graduates, and teacher supply or demand data. Suffice it to say that there are ample opportunities for the study of supply and demand variables in the area of leadership training.

## Barriers to Leadership Training

There is general concurrence that smaller numbers of graduate students are showing interest in becoming college faculty. Bowen and Schuster (1986) summarize this condition with their observation that the American professorate is becoming imperiled because of the failure of professors to produce new members. The following list of barriers that serve to limit or reduce doctoral personnel has been compiled in order to highlight the magnitude of this problem.

- Lack of adequate financial support for doctoral students and the erosion of existing financial resources (Sattler &Sattler, 1985; Sindelar & Taylor, 1988).
- Competition with careers in business and industry (LaPidus, 1987).
- Training that is often in isolation from other disciplines, and the relatively low status of education faculty (La Pidus, 1987).
- Poor working conditions for faculty (Jones, 1981).
- Diminished job satisfaction and professional dissatisfaction (Smith, White, & Zabel, 1984).
- Attrition through retirement (Smith & Lovett, 1987).

- Lack of challenge or limited opportunities for faculty development (Tymitz-Wolf, 1984).

- Non-competitive salary levels for faculty and researchers in higher education and low initial salary for beginning college faculty (Bowen & Schuster, 1986; White, et al., 1983). In some cases, new doctoral faculty salaries are lower than the mean salary of classroom teachers (Smith and Lovett, in press).

Although the reasons for the decline of graduate students choosing to seek doctoral degrees are complex and varied, the range given above should be cause for concern. Results of surveys conducted by the National Research Council's Survey of Earned Doctorates from 1969 to 1983 indicate that the number of doctoral recipients planning to enter academic employment dropped from 70% to 48%. This finding is corroborated by an Office of Special Education Programs review of existing data on doctoral program graduates in special education from 14 universities. It was found that 40% of the total were employed in institutions of higher education (OSEP, 1986). Data collected by Smith (D. D. Smith, personal communication, October 7, 1988) at the University of New Mexico on the percentage of special education doctorals who take positions with IHEs indicates that only 35% took such positions.

## Leadership Needs in Specific Specialty Areas

Perhaps the most realistic approach to use in identifying the need for special education doctoral-level faculty in institutions of higher education is to analyze specific personnel preparation areas that comprise the larger field of special education. This analysis can be guided by asking relevant questions such as, How have training needs changed in the last 10-20 years? What new training needs are likely to occur in the near future? What knowledge base is needed for the jobs trainees are taking or will be taking? What knowledge bases and attendant skills are required of current and future teaching and research faculty? What numbers of faculty are needed or will be needed to meet anticipated needs?

A review of professional literature, federal personnel preparation initiatives, and open faculty position descriptions indicates that there is a wide range of training program specialties and related disciplines that draw attention as need or demand areas affecting special education programming. The argument can be made that there is a concomitant and continuing need for qualified teaching and research doctoral-level faculty when additional, trained personnel are in short supply or when new training needs are identified. At present it would appear that two distinct groupings of faculty are found in most university training programs, although there is a considerable amount of overlap between the two. One is the cluster of personnel preparation faculty who are oriented toward producing certified teachers in the traditional handicap categories as currently defined and tracked by OSERS. The other is comprised of those faculty serving new or reconceptualized training initiatives, or sub-specialty areas that fill a specialized teaching, research or service function. In many instances the delineation between these two faculty functions is not clear or exists due to administrative or funding assignment.

The remainder of this review will focus on a discussion of several different specialty areas that have identified long-term training, research, or service needs in the larger context of special education. The basis of need for trained personnel in each of these areas is examined and in terms of what faculty or leadership needs are emergent.

Behavior Disorders. At the present time, the need for personnel to work with the behavior disordered/emotionally handicapped is perhaps the greatest in all the field of special education. Several surveys and reports have identified a critical need for additional teachers to serve students with behavioral/emotional handicaps (Grosenick & Huntze, 1980; NCES, 1985; Smith-Davis, 1985). In a survey of national data on the number of teachers employed to teach the handicapped, Bowen (1987) found that the demand for teachers of the emotionally disturbed had increased by 47.5% in the nine years from 1976 to 1984. This same survey of national data revealed that the number of degree awards in the area of emotional disturbance had decreased from a high of 1,016 in 1979-80 to 508 in 1984-85. This is a drop of 50% in a six-year period.

A further indicator of critical need for teachers to serve the emotionally handicapped is the high attrition rate of teachers in this area. Grosenick and Huntze (1981) reported that up to 53% of teachers of the behaviorally disordered leave within the first five years of teaching. The factors of emotional stress and burnout further diminish the number of teachers available to serve this group of students.

Bilingual/Language Minority. Due to large and continuing shifts in the population and cultural make-up of America from the 1980s through the year 2050, special education will be expected to serve a more diverse range of students from linguistically and culturally different backgrounds. Mathis (1987) reports that birth rates and immigration patterns point toward a population configuration in the United States in which three major minority

groups, comprised of blacks, Hispanics, and Asian-Americans, will create a new context for school reforms. The fastest growing minority group with significant size is the Spanish-speaking population. Their numbers increased 61.0% from 1970 to 1980. Hodgkinson (1985) has projected that by the year 2000 one of every three persons will be nonwhite and the use of a second language may be common.

An increasing awareness of the unmet service needs for this group of students has led to legislative/litigated mandates such as Title VII regulations (1974), PL 94-142, U.S. v. Texas (1981), and more recently, specific funded training initiatives under regulations of the Training Personnel for the Education of the Handicapped Act (34 CFR, Part 318) of 1983 and 1986. According to Yates (1982), one of the greatest challenges facing institutions of higher education today is the preparation of teachers to serve linguistically and culturally different children.

Valero-Figueira (1986) states that there are few teacher training programs in bilingual special education in the nation, that bilingual special education teachers must be trained specifically for their role, and that successful training programs for these teachers should not exist as isolated units in schools of education. Bilingual special education personnel should be prepared to function in a variety of roles, such as bilingual education experts, ethnic role models, cross-cultural communicators, and as providers of parent-school liaison (Arciniega, 1978). In order to provide direction for certification and training programs, the Association for Cross-Cultural Education and Social Studies has developed a list of recommended competencies for bilingual special education teachers (ACCESS, 1981; Baca, 1984). Although various training models have been identified, most do not provide doctoral level training which combines both general, special, and bilingual education. Most faculty in special education teacher training programs do not possess the necessary dual language skills or cultural pluralism to understand and work effectively with these exceptional students nor do they possess the related skills needed to train teachers in bilingual special education.

Rural Special Education. Teacher education programs historically have not differentiated training methodology to account for variances in instructional delivery, resources, student background or cultural expectations for schooling in urban vs. rural environments. However, the diversity or dichotomy of differences between these two population configurations has recently become a highly visible issue. Two-thirds of the country's school districts are classified as rural and there is wide diversity within the associated school system (Helge, 1984). In addition to differences between rural and metropolitan schools, such as transportation, communication, geography, and technical resources, two over-riding concerns are personnel turnover and recruitment of qualified teachers. The teacher attrition rate is commonly identified as being 30% to 50% among specialized personnel (Helge, 1983). Rural schools, with sparse populations and a diminished tax base for supporting education, are frequently forced to hire unqualified teachers with temporary certification; they also experience more difficulty in retaining specialized personnel. Helge (1983) reports that 15% of the rural special education directors and teachers interviewed through the National Rural Project had taken few or no courses in special education. Sixty-seven percent of those surveyed reported that emergency certification is typically used in their districts.

Increasing attention has been given to the need for focusing on specific characteristics of the rural population and the training needs of teachers to serve rural areas. Traditional teacher training programs are alleged not to have prepared special education personnel who are able to adjust to the demands of remote, isolated, or culturally distinct rural areas (Sontag & Button, 1980) nor to have prepared a sufficient number of qualified personnel for rural special education programs (Marrs, 1984). Through the initiatives of the Small

College Caucus of the Teacher Education Division of CEC and the colleges and universities participating in field-testing of a preservice training curriculum developed by the National Rural Project, some positive changes are beginning to occur in training program methods, expectations of teachers, and teacher and administrator role perceptions (Yates, 1982).

Early Childhood Special Education. With the passage of PL 99-457 and the provision of incentives to States to educate handicapped infants and young children, the supply expectations of service providers and personnel preparation programs have greatly increased. Burke, McLaughlin & Valdivieso (1988) have noted that one of the most pressing policy issues confronting those who seek to expand services to the infant and toddler population is the issue of preparing educators to work with these children. In an earlier survey of SEAs, McLaughlin, Smith-Davis, & Burke (1986) reported that 32 of 57 States and territories were experiencing critical personnel shortages in the general early childhood area. The SEA respondents also indicated difficulty in locating individuals who had training in working with young children with handicaps and in determining what skills these individuals should have. This survey was completed before the further demands created in this area by the passage of PL 99-457 were identified.

There is the expectation from SEAs, LEAs, and other service providers that institutions of higher education will recruit and train more specialists who can work with infants and young children. The development of competent and well-trained leadership personnel in this critical need area is not a simple or quickly developed process. First, personnel preparation programs cannot quickly develop new training sequences and locate qualified teacher trainers (Noel, Valdivieso, & Fuller, 1985). There is also the legitimate question of what constitutes a well-qualified infant/special educator or teacher trainer (Mallory, 1983; McCollum, 1982) and the appropriate competencies needed in relevant training programs (Geik, Gilkerson, & Sponseller, 1982). Further, there is a need for leadership personnel to receive interdisciplinary training and experiences within early childhood training programs due to interactions with other related professions, service providers, and the variety of environmental contexts involved (Bailey, Farel, O'Donnell, Simeonsson, & Miller, 1986; Burke, McLaughlin, & Valdivieso, 1988). Given the scope of experience and training necessary for the development of competent leadership personnel, there is likely to be a severe shortage of adequately trained university faculty to serve this area.

In discussing the context and needs of early childhood special education in the year 2000, Odom and Warren (1988) have observed that national policy and demographic forces will combine intervention services. Their thesis of increased numbers and need is based on the following observations.

- Demographic trends suggest that early intervention services will need to expand enormously (Bricker, 1988).
- Large numbers of infants and their families are in need of assistance and in most communities adequate help is unavailable (National Center for Clinical Infant Programs, 1986).
- Children who live in poverty are one and one-half times more likely than nonpoor children to suffer from one or more disabilities, particularly mental retardation and learning disabilities (Children's Defense Fund, 1986).
- Enhanced medical technology may lead to some increases in the survival of infants born with disabilities (Scott & Carren, 1986; Ensher Clark, 1986).

- The rapid spread of the Acquired Immune Deficiency Syndrome (AIDS) and the related Human Immunodeficiency Virus (HIV) will increase the number of children in need of early intervention.

Some concern has been expressed also with regard to shortages in personnel trained to serve handicapped preschoolers. One survey indicated that fifteen states reported shortages of early childhood special educators (Mills, Vadasy, & Fewell, 1987). With expansion of services to infants and toddlers who are at risk, there is concern that the shortage will increase (McCollum, 1987). There is also a growing awareness of the need to provide preservice training for future early childhood teachers in rural areas (Mills, Vadasy, & Fewell, 1987).

Career/Vocational/Transition Special Education. Teacher training programs in both general and regular education have long neglected career/vocational education for the handicapped. Often training programs for special educators and vocational/career educators were located in different departments or disciplines, making it difficult for uniform and stable professional roles and functions to be defined (Malouf & Taymans, 1982). As is true of numerous other special education training efforts, there is a range of separate disciplines that are or should be involved in career/vocational education for the handicapped, making for great diversity and complexity in the training and service delivery models in current use.

The need for more in-depth training in career/vocational education has been generally recognized for some time. The General Accounting Office (1976) reported that 78% of the nation's school districts employed vocational educators who were insufficiently trained in special education skills. In a survey of special education teacher training programs, Gillet (1978) found that only 21% offered a course in career education of exceptional students. Approximately half of these programs did not require prospective teachers to take a course in career education of the handicapped. With the implementation of a national initiative to prepare transitional vocational educators, job coaches, and career educators for the handicapped, the need for additional trained leadership personnel is expected to increase considerably. This call for trained personnel emphasizes the need for well-prepared leadership personnel in career/vocational/special education.

Special Education Research. Recently concern has been expressed with regard to the quality and quantity of research in special education and the adequacy of doctoral-level research training (Calder, Justen, & Waldrop, 1986; Drew, Preator, & Buchanan, 1982; Stainback & Stainback, 1984). According to Calder, et al., the consensus is "that research in special education leaves something to be desired" (p. 51). According to Prehm (1980) a strong research background is needed as a knowledge base for special education researchers who are capable of addressing the needs of handicapped persons in effective, innovative ways. Historically, research in education has received little general acceptance (Ausubel 1969), and the observation has been made that most special education doctoral programs do not stimulate faculty and students to undertake research projects (Prehm, 1980).

Calder et al. (1986) reported on a study undertaken to identify the amount and type of research training as evidenced by formal coursework that was required by teacher education programs in special education. Twenty percent of the existing special education personnel preparation programs were surveyed concerning the extent and type of coursework in research and statistics required of special education students in undergraduate, master's, and doctoral training programs. They found that slightly over eighty percent of the programs offering training at the undergraduate level had no coursework pertaining exclusively to research or statistics. Only twenty percent required one or more courses.

Forty-eight percent of the master's degree programs required only a single research or statistics course. The same finding was true of the educational specialist programs. Of the doctoral-level programs they found diverse program requirements, ranging from one program requiring nine courses, while some required none. The modal requirement was four courses. They also found that most of the research courses required in special education programs were offered through other departments.

The results of the above study tend to support the observation of Drew et al. (1982) that undergraduate and graduate students in special education have limited exposure to research-related coursework. It also appears that a major part of advanced graduate training necessarily involves research and that there is a continuing need for professionals who are skilled in scientific methodologies to address and solve the problems associated with the education of individuals who are handicapped (Brady, Williams, & Bailey, 1988; Prehm, 1980; Rousseau, Shores, Hasselbring, & Cunningham, 1984).

Special Education Administration and Supervision. According to data available from the National Center for Education Statistics (see Table 3) more special education doctoral degrees are awarded in the area of special education administration than in any other area of special education. Markel (1982a) has observed that graduates of doctoral programs in special education assume professional responsibilities as educators, researchers, administrators, and clinical personnel. The related area of supervisory practice has also been identified as an important goal in special education leadership programs and is currently viewed as a critical need area in educational leadership (Harris & King, 1974; Sullivan, 1980). The lack of comprehensive, systematic, and field-based training in special education administration and supervision is an unrecognized but important issue in personnel preparation programs, specifically in advanced graduate preservice programs (Markel, 1982a; 1982b). The professional literature in this area appears to have focused on describing competency training sequences and how such training impacts on students who are handicapped (Vergason, Wallace, Hartman, & Kelly, 1984).

Jones (1988) recently reported the results of a study conducted in 1986 to determine the need for administrators and supervisors of special education. Twenty-four percent of responding state directors planned to leave their positions and the field of special education in the next five-year period. In analyzing the replacement need of professional staff in special education at the SEA level, Jones found an attrition rate of 20% that would occur by 1989. Of LEA special education administrators/directors, he found that there would be a 15% replacement need within three years. The survey results also indicated that there would be a 16% replacement need for supervisors within the same time period. This study indicates a considerable replacement need for special education administrators and supervisors before 1990. It should also be noted that many of these positions require personnel who hold a doctoral degree.

Speech-Language-Hearing Personnel. More data concerning the work force and current supply and demand for graduate and doctoral level personnel in the areas of speech, language, and hearing are available than for any other special education-related discipline. This is partly due to the activities of a strong professional organization and to the appearance of two major reports that have summarized a wide range of information concerning the preparation of doctoral personnel.

The Council of Graduate Programs in Communicative Sciences and Disorders recently published information on the number of undergraduate, master's and doctoral degrees awarded in audiology, speech-language pathology and speech and hearing sciences (Council of Graduate Programs, 1986). The data indicate a decline of doctoral degrees from 1981-82 levels. The number of doctoral degrees granted in 1984-85 was down

44.0% from the 1981-82 levels. Doctoral degree awards in audiology declined 24.3%; in speech-language pathology, 52.6%; and in speech science 38.4% during the four-year period of 1981-82 to 1984-85. (See Table 4.) By way of comparison during this period undergraduate degrees were down 19% and master's degrees were down 5.2%. An earlier national survey (Council of Graduate Programs, 1983) indicated that enrollments at the doctoral level appear to have remained relatively steady between 1979 and 1983.

The American Speech-Hearing-Language Association (ASHA) has completed a work force study of the profession with the intention of providing a detailed description of the current supply of and demand for speech-language-hearing personnel (Shewan, 1988). A second purpose of the study was to predict what future estimates for personnel might be and what anticipated changes the profession might expect. Some conclusions drawn from this study are that (1) there does not appear to be an oversupply of speech-language pathologists and audiologists; (2) there does not appear to be a generalized undersupply or shortage of professionals; and (3) the need for speech-language pathologists and audiologists will continue to grow and to outstrip supply in the near future (Shewan, 1988, p. 2).

The ASHA work force study further noted a declining number of students in academic programs and that their reported declining quality is a concern. In an earlier study, Lingwall and Snope (1982) identified similar concerns. They surveyed a sample of directors of undergraduate and graduate speech-language-hearing programs and found that applications to master's and doctoral programs were reported to have declined by an estimated 25% to 43%, respectively, over a five-year period between 1976-77 and 1981-82. Approximately one-third of the responding program directors indicated declines in the overall quality of undergraduate and master's students, while slightly more than one-half reported declines in student quality at the doctoral level. The implication of these figures is that training programs may be responding to current trends with efforts to boost faltering enrollments by acceptance of students with poorer academic credentials and professional promise.

The need for future leadership personnel in speech, language, and hearing training and service settings is likely to be defined by identification of currently underserved populations. Fowler (1985) reports that due to demographic, economic, sociological, cultural, linguistic, and institutional factors, there is a large underserved population. In a 1985 national colloquium on underserved populations, ASHA attempted to identify areas in which service disparities appear to exist. ASHA's Office of Minority Concerns identified the underserved as linguistic minority populations, economically disadvantaged populations, rural/remote populations, institutionalized populations (correctional and psychiatric), American Indians, and populations in developing regions.

Severe/Profound/Multiple Handicaps. There appears to be both a conceptual and service need for leadership preparation programs in severe and multiple handicaps. The combination of a wide range of labels such as severe communication and behavior disorders, autism, developmental disabilities, and multiple handicaps appears often in regulatory language (Warren, 1980). State efforts to identify and serve this population are hampered by the lack of doctoral personnel who are appropriately trained to provide services to a wide variety of persons with severe handicaps and challenging behaviors. Many service settings specifically require doctoral level personnel trained to work with persons with severe handicaps. Such doctoral level personnel are needed to serve as researchers,

personnel trainers, curricular content and instructional materials developers, service delivery administrators, and evaluators.

Voeltz and Evans (1983) note that much of the body of literature on autism and other severe communication/behavior disorders lacks "educational validity," meaning that research and practices are often clinic-based and do not correlate well with educational and community settings. Doctoral level personnel, both researchers and practitioners, are needed who can develop innovative research based programs as well as "research into practice" innovations. Doctoral level training programs in this diverse area are expected to prepare leadership personnel that specifically meet the need for community-based services in heterogeneous environments for individuals who are typically underserved and isolated. Due to the diversity of training programs and how training is categorized and reported in counts of earned degrees in special education, it is difficult to document the exact numbers of doctoral personnel specifically trained in these areas

Adapted Physical Education and Therapeutic Recreation. The development of adapted physical education and therapeutic recreation as areas of personnel preparation and the recipients of federal training grants can be traced to the mid-1960's when the federal government first provided funds for professional preparation, research, and demonstration projects in physical education and recreation for the handicapped. As an example of the growth in these areas, from fiscal year 1982 through 1988, the Division of Personnel Preparation, Office of Special Education Programs, has awarded more than 435 training projects to applicants in 29 states and the District of Columbia (Bokee, 1988).

Doctoral programs that train personnel to serve in these areas have been few in number and have been difficult to maintain, as exemplified by the recent demise of doctoral programs at the University of Connecticut and the University of California-Berkeley. At present there are three doctoral programs and one post-doctoral program in adapted physical education supported by the Division of Personnel Preparation. No doctoral-level preparation program in therapeutic recreation is presently sponsored by the Division of Personnel Preparation (Bokee, 1988). Winnick (1986) recommends that leadership personnel be prepared with high levels of expertise in at least two programmatic areas such as in adapted physical education with a second area of expertise in areas such as exercise physiology, motor learning, biomechanics, special education or psychology of sport.

Churton (1986) indicates that doctoral programs in adapted physical education have traditionally been concerned largely with preparation of specialists to accept positions within IHEs. However, there may be a developing exodus of teachers with doctoral degrees to the public schools that may adversely affect the quality of instruction and preparation of future faculty. As a result, training programs may be called upon to develop in graduates the competencies needed for public school personnel as practitioners. Churton (1986) also recommends that these training programs should continue to develop the trend toward a philosophy that stresses (1) more of a multidisciplinary approach that is field-based, cross-categorical and includes experiences with the severely and profoundly handicapped; (2) the development of model inservice training programs; (3) skills in advocacy at the local, state, and national levels; and (4) the development of research skills that will significantly affect functional skill development in the handicapped.

## Issues and Recommendations

A number of conditions, practices, and needs concerning the supply and demand for special education leadership personnel have been identified and discussed. A coherent analysis of the related issues is complicated by the diversity of categorical/content areas involved, differences between training programs and goals, Federal funding initiatives, changing marketplace demands, political and economic factors, and job-related factors.

In this section a variety of specific need issues will be discussed. Some of the issues raised will be identified as need areas and others will be presented with related recommendations. The issues that are addressed here are representative, but not exhaustive, of supply and demand topics related to doctoral level personnel preparation in special education.

(1) There is a critical need for the development of a comprehensive data base that both tracks and summarizes the annual or biennial production of doctoral-level personnel in special education. Such a data base should acquire specific information such as the number of doctoral students graduating during a given year, the primary area of specialty, and types of positions taken by recent graduates. It is suggested that this data be collected on a State-by-State basis and that the data points be consistent from year to year. National and State data, as presently collected and reported, have lost much programmatic individuality and thus the power to identify subtle marketplace trends and patterns. As noted earlier, there are two surveys currently underway that address the collection of data concerning numbers and types of doctoral degree awards, post-doctoral employment, and program and faculty demographics. Hopefully these studies will yield information that can be used to identify training and programmatic needs at local, State, and national levels.

(2) A critical unevenness of needs data to support a wide range of doctoral training program areas currently exists. Although an obvious need may exist for leadership personnel both inside and outside IHEs in areas such as bilingual special education or special education research, published data that will document need on one or more dimensions simply does not exist for many categorical or specialty areas within the larger field of special education. Dimensions of trained personnel need can be identified as number of advertised open job positions, surveys of State, regional or national employers regarding employment needs or projected need for trained personnel based on school-age census projections, Public Health Service reports and CSPD data related to numbers of handicapped students, and institution or agency longitudinal data that summarizes placement of program graduates. In order to convince Federal, State, and private funding agencies that real and projected needs exist for additional trained personnel, these types of needs data should be developed and collected. In the face of obvious, imminent need, such as with the early childhood special education, bilingual special education, and transition personnel needs, the commitment of time and resources for the development of a capacity to prepare adequate personnel should proceed concurrently with the development and acquisition of needs data.

(3) There is a need for all professional groups, such as employers, trainers, and representative bodies to (a) document the personnel needs (demands) they have observed and to (b) identify leadership personnel that have been trained or are available (supply). There is a particular role for agencies such as SEAs, service consumers, professional associations and organizations, and IHEs in the development and reporting of supply and demand information. At present there are few data banks that collect and disseminate information regarding the number of trained personnel at the doctoral level. It is recommended that one

nationally visible special education agency or association be established that can sufficiently fill this need.

(4) At present it appears that most of the personnel preparation areas in special education are generating training needs statements from global literature reviews, evidence of classroom teacher shortages, and immediate requests for trained personnel to fill job openings in school districts and other service providers. Although this practice is logical and acceptable in the short term, it does not represent a position of strength in the long term nor does it generate a strong or predictable data base. Obviously, if a new personnel mandate is set in place or if a new Federal training initiative is funded, certain needs will have been identified and personnel to fill the demand will need to be trained. However, IHEs in particular will need to base continued training of personnel on the evidence of both present and projected need for such personnel. There further appears to be some observance of the status quo in numerous training programs; that is, whatever the personnel need has been in the past, it is expected to continue at the same level in the future.

(5) There is a need for one or more national disseminators of specific supply and demand data to cover both the broad range of special education and the many specific subcategorical areas such as rural special education, correctional special education, adapted physical education, etc. Synopses of available reports, listings of professional association publications that deal with personnel supply and demand needs, publication of government sources of data such as OSERS' annual reports to Congress on the implementation of PL 94-142, and news alerts from educational news reports could be distributed through such a disseminator. Such dissemination could possible occur through public or private organizations such as the Clearinghouse on Careers and Employment in Special Education, National Association of State Directors of Special Education, Council for Exceptional Children, the Rand Corporation, American Institutes for Research, etc.

(6) There needs to be a closer working relationship between IHEs who train doctoral-level personnel and the users or consumers who employ their graduates. In today's faster paced development of technological and scientific discoveries, there is some difficulty, even for cutting-edge training programs, to keep pace with current scientific advancements and the accompanying demand for differently trained personnel. Therefore there is a greater need for cross-disciplinary training, coursework, and utilization of faculty and facilities. A good example of such inter- and multi-disciplinary networking is the area of infant/early childhood special education. Another example is the developing area of computer technology and its applications in special education.

(7) IHE faculty working in all phases of personnel preparation need to become more knowledgeable of a wide array of data sources that include the special education population and the agencies and personnel that prepare such data. For example, there are many relevant publications produced by the National Center for Education Statistics, such as The Condition of Education, Digest of Education Statistics, and State-by-State compilations of earned degree awards gathered through the Higher Education General Information Survey. There are many other useful data sets available through the Bureau of Labor Statistics, Bureau of the Census, and the Public Health Service. These agencies have compiled difficult to obtain data that, upon analysis, sorting out and interpretation can provide valuable information on special education populations.

(8) There is a specific need for projection studies that will attempt to identify the personnel and information needs likely to occur in the first three decades of the twenty-first century. How is educational service delivery likely to change? In what ways are faculty/researcher/administrator training programs likely to change? How is information delivery and acquisition likely to change? How will population changes affect teacher

supply and demand? Answers to these informational and training needs will be needed, yet the basis for change is grounded in the present.

(9) There is a need for the specific acquisition and development of data related to low incidence special education populations and specific sub-sets of this population. Some examples are the areas of multiple handicaps, severe and profound handicaps, severe behavior disorders, visual and auditory disorders, deaf-blind, and physical and health related impairments. As funding for training and employment declines or remains depressed, administrators of many personnel preparation programs may be tempted to eliminate training due to the higher expense of personnel preparation in these areas. This trend, coupled with unclear data, could cause a serious decline in the preparation of needed personnel in these areas.

(10) Some concerns have been raised with regard to the quality and strength of doctoral-level preparation programs in special education (Prehm, 1984; Rose, Cullinan, & Heller, 1984). Concerns have generally been expressed as questions concerning the inadequate level of entering knowledge of doctoral candidates, procedures for monitoring student progress, lack of validated guidelines for quality practice, and lack of emphasis on problem solving and knowledge generation. Questions concerning quality most often relate to program faculty and program practices. McLaughlin, Smith-Davis and Burke (1986) in their analysis of personnel to educate the handicapped noted that a number of teacher employers and district directors made statements that related their concern about quality or lack of it in teacher training programs. Blackhurst (1987) in compiling information for the national directory of special education personnel preparation programs found evidence of considerable variability in program faculty resources, such as number of full-time faculty and use of part-time faculty. Regarding the concern about quality practices in doctoral training, HECSE has developed two related documents (HECSE, 1984; 1987). Wider and more visible national discussions should be initiated concerning quality practices in special education doctoral programs. Perhaps a coordinated, national focus on quality training and programmatic practices in doctoral-level preparation could be spearheaded by groups such as HECSE and the Teacher Education Division of CEC.

(11) There is a need for leadership preparation programs to identify specific personnel needs that are generated by a wider user audience than has been utilized in the past. Training in the past tended to be oriented toward the development of personnel to serve as university program faculty, school administrators, and public and private agency staff. Present employment needs appear to range considerably beyond these earlier training needs. Other employers are increasingly found in such areas as State education agencies, medical education and research, policy analysis, evaluation methodology, content and professional test development, professional associations and organizations, educational materials publishers, and educational consulting. Perhaps an analysis of how leadership training projects are funded with federal assistance is in order. The merits of funding the general thrust and quality of a doctoral training program versus the funding of doctoral training programs that are project and role-specific should be evaluated in terms of trainee quality, program focus, faculty utilization, and institutional resources.

(12) There is a need for specific studies to be conducted on the retirement trends and patterns of both classroom teachers and college personnel preparation faculty who train teacher educators and other doctoral-level personnel. These studies should also examine the projected school-age population and correlate expected retirement rates with expected student enrollment trends. Information gained from such studies would be useful in planning for certain types of replacement personnel both at the public school level and at the IHE level.

(13) Although additional data concerning graduates of leadership training programs (such as major training emphasis and type of employment) are gradually being collected through new national surveys, major inadequacies in the reporting and interpretation of these data exist. Data on doctoral graduates in special education are reported in such widely differing ways by the individual departments and universities that much valuable information concerning type and emphasis of training program is lost. It is recommended that all leadership training programs report degree awards by the specific HEGIS codes assigned the various handicap categories rather than reporting all degree awards under one designation such as "general" special education. It is further recommended that department chairpersons or doctoral program coordinators assume the responsibility to work with their university registrar or other administrative officer in seeing that specific degree awards are reported correctly to State and national repositories. Failure to do so will result in continued confusion and uncertainty as to the availability of leadership personnel in the various specialty need areas.

(14) There is a specific need to collect information on the employment and types of jobs taken by graduates of doctoral programs. In the past this information has been minimally available making it more difficult to assess personnel needs and to identify areas of critical shortage. The topic of employment patterns and job acquisition also should be analyzed in relation to the training doctoral level graduates have received. Are graduates taking jobs in teacher training when they have primarily received research training? Are graduates who are trained in general special education taking positions in general or special education administration? It is expected that responses to the current and future program survey instruments will provide useful information on this topic.

(15) A more adequate data base on the need for post-doctoral personnel and post-doctoral training programs is needed, particularly with the advent of OSEP funding for this level of training. This training focus represents another area in which needs data will be necessary. Such data must be gleaned from the professional constituency, including employers, national professional organizations, agencies, and documentation of personnel needs emanating from university training programs.

(16) There is a need for recognition, both at the training program level and at the State and Federal levels, of the relationship that exists between leadership preparation and teacher training programs. This recognition must extend also to the identification and provision of adequate resources needed to develop the capacity for IHEs to prepare teachers for existing need areas and new specializations. When new needs emerge or are mandated, both quantitative and qualitative support measures can and should be used and the support should be in keeping with the identified needs of actual and projected needs.

## Summary

The purpose of this paper has been to analyze certain conditions and practices that affect the supply, demand and data needs concerning the preparation of doctoral-level personnel in special education. Some of the effects of current trends and reforms in education as well as supply and demand for teachers and leadership personnel were identified and discussed. The central theme of discussion was the paucity of nationally reported data that deals specifically with the supply and demand for leadership personnel in special education.

A further purpose of this paper has been to identify and report data and programmatic needs that can be used to inform policy makers. The intent has been to make available to the special education personnel preparation field a wide range of support data that can be

used in a positive way to facilitate local and national long-range planning. The information as presented should also be useful in assisting to establish and change both policies and programs.

The training needs of certain specialty areas in special education have been discussed along with the concomitant evidence of supportive data or lack thereof. The specialty areas as presented do not portray an exhaustive list of all such areas that exist in special education; they were chosen as examples of training and data needs existent within the broader field of special education. The argument was made that much of the present and future development in special education, and therefore much of the need for supportive data, is likely to derive from these and other related areas.

Finally, a number of issue statements and suggestions for data development and exploration have been made. Suggestions for conceptual and predictive studies and doctoral training program monitoring have been made. The statements as presented are open for comment and revision. Discussion and review is invited as a means of strengthening the base for leadership preparation. Suggestions for additional sources of data and procedures for developing needed data for training program support are particularly welcomed.

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## Table 1
## Teacher Attrition Rate
## Special and Regular Educators

| Source | Date | Locale | Percent Rate of Attrition |
|---|---|---|---|
| Smith, Gary R. | 1981 | Michigan | 10% after 1 year of special ed. teaching<br>28% after 5 years of special ed. teaching<br>43% after 8 years of special ed. teaching |
| Illinois State Board Board of Education | 1981 | Illinois | 12% annually for all special educators<br>9% annually for elem/secondary teachers |
| National Education Association | 1983 | National | 6% annually for regular educators |
| McKnab, Paul | 1983 | Kansas | Special education (all categories)<br>18% local (attrition across districts)<br>14% after 1 year teaching<br>19% after 6 years teaching<br><br>16% statewide<br>11% after 1 year teaching<br>15% after 6 years teaching |
| Darling-Hammond, L. | 1984 | National | 9% annually for regular educators |
| NCES | 1985 | National | 6% annually for regular educators |
| Gomez, Joseph | 1986 | Michigan | 10% after 1 year teaching<br>37% after 7 years teaching |

NOTE: The above listing does not account for the hiring of non-certified personnel and emergency waivers of appropriate certification. If these positions were counted as vacancies, the attrition or demand percentage levels would be higher.



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## Table 2
## Degrees Conferred by Institutions of Higher Education by Field Education: 1980-1986

| Year | Bachelor's | Master's | Doctor's |
|---|---|---|---|
| 1980 | 118,169 | 103,951 | 7,941 |
| 1981 | 108,309 | 98,938 | 7,900 |
| 1982 | 101,113 | 93,757 | 7,680 |
| 1983 | 97,991 | 84,853 | 7,551 |
| 1984 | 92,381 | 77,187 | 7,453 |
| 1985 | 88,161 | 76,137 | 7,151 |
| 1986 | 87,221 | 76,353 | 7,110 |

Source: National Center for Education Statistics (1988). Digest of education statistics. (Based on the HEGIS survey of degrees and other formal awards conferred.) Washington, DC: U.S. Department of Education.

## Table 3
## Summary of Earned Doctoral Degrees in Special Education
## 1979-80 to 1985-86

| Category | 1979-80 | 1980-81 | 1981-82 | 1982-83 | 1983-84 | 1984-85 | 1985-86 |
|---|---|---|---|---|---|---|---|
| Special Education - General | -- | 207 | 206 | 213 | 203 | 199 | 201 |
| Special Education - Admin. | -- | 18 | 19 | -- | 21 | 30 | 51 |
| Mentally Retarded | -- | 2 | 9 | 8 | 8 | 3 | 4 |
| Gifted | -- | 1 | 4 | 1 | 2 | 2 | 3 |
| Deaf and Hearing Impaired | -- | 3 | 3 | 0 | 3 | 1 | 2 |
| Visually Handicapped | -- | 1 | 1 | 3 | 0 | 1 | 0 |
| Emotionally Disturbed | -- | 5 | 6 | 8 | 3 | 2 | 2 |
| Learning Disabled | -- | 27 | 22 | 14 | 11 | 18 | 21 |
| Physically Handicapped | -- | 3 | 4 | 4 | 3 | 2 | 1 |
| Multiply Handicapped | -- | 5 | 0 | 0 | 0 | 0 | 0 |
| Remedial Education | -- | 0 | 0 | 6 | 1 | 2 | 1 |
| Special Education - Other | -- | -- | -- | 10 | 4 | 4 | 9 |
| Year Totals | 257 | 272 | 274 | 267 | 299 | 264 | 295 |

Source: National Center for Education Statistics. Summary of earned degrees conferred, unpublished annual data. Washington, DC: NCES

## Table 4

### Doctoral Degrees Granted in Communication Sciences and Disorders 1982-85

| | 1981-82 | 1982-83 | 1983-84 | 1984-85 | 1981-82 to 1984-85 Difference Numerical | Percent Change |
|---|---|---|---|---|---|---|
| Audiology-Male (M) | 20 | 19 | 19 | 10 | -10 | -50.0 |
| Audiology-Female (F) | 17 | 11 | 12 | 18 | +1 | +5.9 |
| Audiology-Total (T) | 37 | 30 | 31 | 28 | -9 | -24.3 |
| Speech-Lang. Path. (M) | 21 | 26 | 18 | 15 | -6 | -28.6 |
| Speech-Lang. Path. (F) | 95 | 88 | 50 | 40 | -55 | -57.9 |
| Speech-Lang. Path (T) | 116 | 114 | 68 | 55 | -61 | -52.6 |
| Speech & Hear. Sci. (M) | 11 | 11 | 10 | 8 | -3 | -27.3 |
| Speech & Hear. Sci. (F) | 36 | 6 | 6 | 21 | -15 | -41.7 |
| Speech & Hear. Sci. (T) | 47 | 17 | 16 | 29 | -18 | -38.3 |

Adapted from 1985-86 National Survey, Council of Graduate Programs in Communication Sciences and Disorders (Table 25, p. 23).